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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/665,173	09/17/2003	David G. Changaris	ZB999/04005	1677
22884	7590	12/28/2004	EXAMINER	
MIDDLETON & REUTLINGER 2500 BROWN & WILLIAMSON TOWER LOUISVILLE, KY 40202			TRAN, CHUC	
			ART UNIT	PAPER NUMBER
			2821	

DATE MAILED: 12/28/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/665,173

Applicant(s)

CHANGARIS ET AL.

Examiner

Chuc D Tran

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 17 September 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-13 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 8-10 is/are allowed.
- 6) ☒ Claim(s) 1,3-5 and 11 is/are rejected.
- 7) ☒ Claim(s) 2,6,7,12 and 13 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☒ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 9/17/03.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Claim Objections

1. Claim 11 is objected to because of the following informalities: In claim 11, lines 12 and 13, the sentence “, falls below said flash lamp self extinguishing voltage” should be deleted because the above limitation does not further limit the claimed “voltage detection circuit” and in addition the function of voltage detection circuit have been recited in lines 14-17. Appropriate correction is required.

For the purpose of examination the redundant recitation “, falls below said flash lamp self extinguishing voltage” has been deleted.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1, 3-5 and 11 are rejected under 35 U.S.C. 102(b) as being anticipated by Stewart et al. (US 5,886,620).

Regarding claim 1, Stewart discloses a circuit (i.e., alarm strobe) for providing a method of repetitively firing a flash lamp (i.e., flash tube DS1), the flash lamp (i.e., flash tube DS1) having a self extinguishing voltage (i.e., 250 volts) and a discharge time, the method comprising the steps of:

- providing power supply (i.e., via power line 18, 20) having a periodic voltage signal, the periodic voltage signal having a component where the voltage signal less than the flash lamp self

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extinguishing voltage (i.e., 250 volts), the signal component being longer than the flash lamp discharge time (Figs. 1, 2; abstract; Col. 3, lines 44-60);

- providing a means for storing energy (i.e., capacitor C5), the energy storage means (i.e., capacitor C5) being connected across the electrodes of the flash lamp and across the power supply (Fig. 2; abstract; Col. 3, lines 8-28);

- charging the energy storage means (i.e., capacitor C5) with the power supply voltage signal (Fig. 2; abstract; Col. 3, lines 20-32);

- firing the flash lamp (i.e., flash tube DS1) when the power supply voltage signal less than the flash lamp (i.e., flash tube DS1) self extinguishing voltage (i.e., the voltage across the power line dropping to zero) and at a time such that the flash lamp de-ionizes while the power supply voltage signal remains below the self extinguishing voltage (Fig. 2; abstract; Col. 3, lines 20-32); and repeating the charging and the firing steps (Fig. 2; abstract; Col. 3, lines 8-65).

Regarding claims 3, 4 and 5, Stewart discloses a circuit for repetitively firing a flash lamp (i.e., alarm strobe) (Fig. 2), the flash lamp (i.e., flash tube DS1) having a self extinguishing voltage (i.e., about 250 volts), the circuit comprising:

- a means for storing energy (i.e., capacitor C5) having inputs connection to a power supply having a periodic voltage signal, the means for storing energy (i.e., capacitor C5) connected across the electrodes of the flash lamp (Fig. 2; Col. 3, lines 8-28);

- a means for triggering (i.e., trigger circuit including Q2, T1, C6, R3) the flash lamp (i.e., flash tube DS1);

- a means for detecting (i.e., zener diode D4 & transistor Q3 being non conductive) when the voltage of the periodic power supply signal falls below the flash lamp self extinguishing

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voltage (i.e., the voltage across the power line dropping to zero); the voltage detecting means (i.e., zener diode D4 & transistor Q3 being non conductive) operative to trigger the triggering means thereby firing the flash lamp when the periodic power supply voltage signal is below the flash lamp self extinguishing voltage (i.e., the voltage across the power line dropping to zero) (Figs. 2; abstract; Col. 3, lines 1-65; wherein zener diode D4 & transistor Q3 being non conductive acts as a zero crossing detector).

Regarding claim 11, Stewart discloses a circuit for repetitively firing a flash lamp (i.e., alarm strobe) (Fig. 2), the flash lamp (i.e., flash tube DS1) having a self extinguishing voltage (i.e., about 250 volts), the circuit comprising:

- an energy storage circuit (i.e., charging circuit including pulse width modulator UC3843A) having inputs for connection a power supply having a periodic voltage signal (i.e., current pulses), the energy storage circuit (i.e., charging circuit) connected across the electrodes of the flash lamp (i.e., flash tube DS1) (Fig. 2; abstract; Col. 2, line 55- Col. 3, line 33)

- a flash lamp triggering circuit (i.e., trigger circuit including T1, C6, R3) operatively connected to trigger the flash lamp (i.e., flash tube DS1) (Figs. 2; abstract; Col. 3, lines 1-18); and

- a voltage detection circuit (i.e., voltage divider resistors R8 and R9) operatively connected to the periodic power supply and the flash lamp triggering circuit (i.e., trigger circuit including T1, C6, R3); the voltage detection circuit (i.e., voltage divider resistors R8 and R9) operative to trigger the triggering circuit (i.e., trigger circuit including T1, C6, R3) thereby firing the flash lamp (i.e., flash tube DS1) when the power supply periodic voltage signal falls below the flash lamp self extinguishing voltage (Figs. 2; abstract; Col. 3, lines 1-65).

Allowable Subject Matter

4. Claim 8-10 are allowed.

5. The following is a statement of reasons for the indication of allowable subject matter:

The prior art of record fail to teach or suggest, alone or in combination, the combination of limitations, “the flash lamp having a self extinguishing voltage in the range to 300 volts and a discharge time of 30 to 200 microseconds; and charging the energy storage means to substantially 2000 volts with the AC power supply” as claimed in claim 8; “interrupting the current flow to the electrical device before the voltage across the energy storage means falls below a second predetermined value” in a manner claimed in claims 9 and 10.

6. Claims 2, 6, 7, 12 and 13 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

7. The following is a statement of reasons for the indication of allowable subject matter:

The prior art of record fail to teach or suggest, alone or in combination, the limitation “a means (interruption circuit) for interrupting the current flow to the flash lamp before the voltage across the energy storage means falls below the flash lamp self extinguishing voltage” in a manner claimed in claims 2, 6 and 12.

Claims 7 and 13, respectively, are objected to as being dependent over objected claims 6 and 11, respectively.

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Citation of relevant Prior Art

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Nguyen (US 4,967,177) ; Bocan (US 5,128,591); also teach similar inventive subject matter.

Inquiry

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Chuc Tran whose telephone number is (571) 272-1829. The examiner can normally be reached on M-F Flex hours.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Don K Wong can be reached on (571) 272-1834. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

TC
December 26, 2004

Shih-Chao Chen 12/27/04